

iFw

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

C. Boyle, et al.

Attorney Docket No. 6006-107

Serial No.:

10/672,695

EXAMINER: Jackie Ho

Filed:

September 26, 2003

AU: 3731

For:

IMPLANTABLE GRAFT AND METHODS OF MAKING SAME

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

CERTIFICATE OF MAILING (37 CFR 1.8a)

I hereby certify that this Information Disclosure Statement (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on this the day of September, 2004 with sufficient postage as first class mail in an envelope addressed: Commissioner of Patents and Trademarks, Washington, D.C. 20231.

Lori Dunham

INFORMATION DISCLOSURE STATEMENT

1. Preliminary statements

It is requested that the references listed on the attached Information Disclosure Citation Form, PTO 1449, be considered by the Patent Examiner in connection with the above-identified application and be made of record therein.

This Information Disclosure Statement is being filed within three months after the filing date of the application or prior to the mailing date of the first Office action, whichever is later. 37 CFR 1.97(b).

Copies of the references were previously cited by and/or submitted to the U.S. Patent and Trademark Office in related applications Serial No. 10/120,800, filed April 11, 2002; Serial No. 10/135,316, filed April 29, 2002; and Serial No. 10/135,626, filed April 29, 2002 (the "prior applications"). The present application relies, under 35 U.S.C. § 120, on the filing dates of the prior applications. Therefore, under 37 C.F.R. § 1.98(d), copies of those references cited and/or submitted in the prior application are not enclosed, but will be provided upon request.

IDS 6006-107 - 1 -

Copies of references not previously cited and/or submitted in the prior application are enclosed herewith.

Independent consideration and acknowledgment of the listed references are respectfully requested.

No fee is believed due with the filing of this Information Disclosure Statement, however, Applicant authorizes the Commissioner to charge any insufficiencies in fees which may be due in connection with the filing of this Information Disclosure Statement to be charged to Deposit Account 18-2000.

Respectfully/subm

David G. Rosenbaum (Reg. No. 31,872)

September 30, 2004

ROSENBAUM & ASSOCIATES, P.C. 650 Dundee Road Suite #380 Northbrook, IL 60062 (847) 770-6000 Telephone (847) 770-6006 Facsimile

Docket No. 6006-107



FORM PTO - 1449 (Modified)
List of Patents and Publications
For Applicant's Information
Disclosure Statement
(Use Several Sheets if Necessary)

ATTORNEY DOCKET NO: 6006-107

APPLICANT: C. Boyle et al.

FILING DATE: September 26, 2003

SERIAL NO: 10/672,695

GROUP: 3731

U.S. PATENT DOCUMENTS

Examiner's	Ref.	Document				
Initials	Desig.	Number	Date	Name	Class S	ubclass
	AA1	5,824,056	10/20/98	Rosenberg	623/1	606/191
	AB1	5,849,206	12/15/98	Amon, et al.	216/63	216/37
	AC1	5,858,556	1/12/99	Eckert, et al.	428/586	428/662
	AD1	5,873,904	2/23/99	Ragheb, et al.	623/1	623/11
	AE1	5,725,573	3/10/98	Dearnaley, et al.	623/2	427/2.25
	AF1	5,605,714	2/25/97	Dearnaley, et al.	427/2.24	427/2.25
	AG1	4,846,834	7/11/89	von Recum, etal.	623/11	623/66
	AH1	5,984,905	11/16/99	Dearnaley, et al.	604/265	427/2.24
	AI1	4,751,099	6/14/88	Niino, et al.	427/34	427/423
	AJ1	4,510,182	4/9/85	Cornils, et al.	427/162	427,165
	AK1	5,242,710	9/7/93	Claar, et al.	427/248	427/249

FOREIGN PATENT DOCUMENTS

Ref.	Document					
Desig.	Number	Date	Country	Class Subclass	Yes No	
AL1	97/44692	11/27/97	WIPO	G02B 6/16		
AM1	98/45506	10/15/98	WIPO	C25D 7/04 B23H		
AN1	98/13537	4/2/98	WIPO	C25D 1/00 C23F 1/02		
AO1	99/23977	5/20/99	WIPO	A61F 2/06		
AP1	61-88135		Japan			

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AR1 "Liquid Sources for Chemical Vapor Deposition of Group 6 Metals and Metal Nitrides" by Gordon, et al., www.techtransfer.harvard.edu/cgi-bin/TALSearch.cgi?full report=1&case=3, Case Number 1709

AS1 "Fabrication of Small-Scale Coils and Bands as Photomasks on Optical Fibers for Generation of In-Fiber Gratings, Electromagnets as Micro-NMR Coils, Microtransformers, and Intra-Vascular Stents" www.techtransfer.harvard.edu/cgi-bin/TALSearch.cgi?full report=1&case=72, Case Number 1263

AT1 "Reactions of Biological Cells to Nanostructures", by Curtis, et al., AVS 46th International Symposium, Paper BI-WeM2 (October 27, 1999)

EXAMINER DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

IDS 6006-107 - 3 -



FORM PTO - 1449 (Modified) List of Patents and Publications For Applicant's Information Disclosure Statement

(Use Several Sheets if Necessary)

ATTORNEY DOCKET NO: 6006-107

APPLICANT: C. Boyle et al.

FILING DATE: September 26, 2003

SERIAL NO: 10/672,695

GROUP: 3731

U.S. PATENT DOCUMENTS

Examiner's	Ref.	Document			
Initials	Desig.	Number	Date	Name	Class Subclass
	AA2	5,899,935	5/4/99	Ding	623/1 623/12
	AB2	5,723,219	3/3/98	Kolluri	428/411.1 428/407
	AC2	5,811,151	9/22/98	Hendricks, et al.	427/2.24 427/2.3
	AD2	5,866,113	2/2/99	Hendricks, et al.	424/78.17 424/78.18
	AE2	5,084,151	1/28/92	Vallana	204/192.11 204/192.14
	AF2	5,477,864	12/26/95	Davidson	128/771
	AG2	5,607,463	3/4/97	Schwartz, et al.	623/1 623/12
	AH2	5,609,629	3/1//97	Fearnot, et al.	623/1 623/11
	AI2	5,647,858	7/15/97	Davidson	604/264
	AJ2	5,649,951	7/22/97	Davidson	606/198
	AK2	5,690,670	11/25/97	Davidson	606/198 606/191

FOREIGN PATENT DOCUMENTS

Ref.	Document					Trans.
Desig.	Number	Date	Country	Class	Subclass	Yes No
AL2	99/16385	04/08/1999	PCT	A61F	2/06	
AM2	00/04204	01/24/2000	PCT	C23C	14/34	
AN2	00/18327	04/06/2000	PCT	A61F	2/06	
AO2	00/54704	09/21/2000	PCT	A61F	2/06	
AP2	01/21852	03/29/2001	WIPO	C23C	14/34	

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AR2 "Biocompatibility of Cardiac Cells on Silane-Modified Surfaces" AVS 46th International Symposium, Paper BI-WeM5 (October 27, 1999)

AS2 "Biofunctionalization of Surfaces with Peptide Amphilphiles" AVS 46th International Symposium, Paper No. BI-WeM7 (October 27, 1999)

AT2 "Plasma Copolymer Surfaces for Cell Culture" AVS 46th International Symposium, Paper No. Paper BI-WeM9 (October 27, 1999)

EXAMINER DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

IDS 6006-107 - 4 -

List of Patents and Publications

For Applicant's Information

Disclosure Statement

(Use Several Sheets if Necessary)

ATTORNEY DOCKET NO: 6006-107

APPLICANT: C. Boyle et al.

FILING DATE: September 26, 2003

SERIAL NO: 10/672,695

GROUP: 3731

U.S. PATENT DOCUMENTS

Examiner's	Ref.	Document				
Initials	Desig.	Number	Date	Name	Class S	Subclass
	AA3	5,735,896	4/7/98	Amon, et al.	623/11	623/1
	AB3	5,765,418	6/16/98	Rosenberg	72/47	72/42
	AC3	5,772,864	6/30/98	Moller, et al.	205/73	205/75
	AD3	5,782,910	7/21/98	Davidson	623/3	
	AE3	5,824,049	10/20/98	Ragheb	623/1	623/11
	AF3	5,728,158	3/17/98	Lau, et al.	623/12	606/194
	AG3	5,840,009	11/24/98	Fischell, et al.	600/3	
	AH3	5,782,908	7/21/98	Cahalan, et al.	623/1	623/11
	AI3	6,042,597	3/28/00	Kveen, et al.	606/198	623/1
	AJ3	6,071,305	6/6/00	Brown, et al.	623/1	623/12
	AK3	5,972,027	10/26/99	Johnson	623/1	623/12

FOREIGN PATENT DOCUMENTS

Ref. Desig.	Document Number	Date	Country	Class	Subclass	Trans. Yes No
AL3	01/37892	05/31/2001	WIPO	A61L	31/04	
AM3	01/43790	06/21/2001	WIPO	A61L	33/02	
AN3	01/49340	07/12/2001	WIPO	A61L	31/18	
AO3	01/53559	07/26/2001	WIPO	C23C	14/14	
 AP3	01/55473	08/02/2001	WIPO	C23C	14/00	

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AR3 "Plasma Co-polymer Surfaces for the Controlled Adsorption of Common Proteins" AVS 46th International Symposium, Paper No. BI-FrM2 (October 29, 1999)

AS3 "Biofilm - Titanium Chemistry of Adhesion Using X-ray Photoelectron Spectroscopy" AVS 46th International Symposium, Paper No. BI-FrM8

AT3 "Nanoscale Patterning of Gold for Attachment of Supported Lipid Bilayers" AVS 46th International Symposium, Paper No. BI-FrM10

EXAMINER DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

- 5 -

List of Patents and Publications For Applicant's Information

Disclosure Statement

(Use Several Sheets if Necessary)

ATTORNEY DOCKET NO: 6006-107

APPLICANT: C. Boyle et al.

FILING DATE: September 26, 2003

SERIAL NO: 10/672,695

GROUP: 3731

U.S. PATENT DOCUMENTS

Examiner's	Ref.	Document			
Initials	Desig.	Number	Date	Name	Class Subclass
	AA4	6,086,773	7/11/00	Dufresne, et al.	216/8 216/48
	AB4	5,630,840	5/20/97	Mayer	623/1 623/11
	AC4	5,955,588	9/21/99	Tsang, et al.	536/21 514/56
	AD4	5,968,091	10/19/99	Pinchuk, et al.	623/1 600/36
	AE4	5,962,138	10/5/99	Kolluri, et al.	428/411.1 428/407
	AF4	5,387,247	2/7/95	Vallana, et al.	623/2 623/12
	AG4	5,972,018	10/26/1999	Israel et al.	606/198
	AH4	6,106,642	8/22/00	DiCarlo, et al.	148/563 148/675
	AI4	5,891,507	4/6/99	Jayaraman	427/2.25 427/318
	AJ4	5,744,515	4/28/98	Clapper	523/113 523/114
	AK4	5,932,299	8/3/99	Katoot	427/508 427/385.5

FOREIGN PATENT DOCUMENTS

Ref.	Document				Trans.
Desig.	Number	Date	Country	Class Subclass	Yes No
AL4	01/21851	3/29/01	WIPO	C23C 14/34	
AM4	01/85064	11/15/01	WIPO	A61F 2/06	
AN4	97/07257	2/29/97	WIPO	C23C 14/00	
AO4	1452370	3/21/74	Germany	C21C 37/15	
AP4	0 400 947	12/5/90	EPO	C23C 16/26	

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AR4 "Focused Ion Beam Non-Fabrication", http://www.glue.umd.edu/~astan/avs04.htm

AS4 "Amorphous Carbon and C:N Thin Films" http://www.glue.umd.edu/~astan/avs01.htm

AT4 "Multilayer Ceramic/Metallic Coatings by Ion Beam-Assisted, Electron Beam Physical Vapor (EB-PVD) Deposition, Penn State Appled Research Laboratory, pp. 1-4 (1997)

EXAMINER

DATE CONSIDERED

List of Patents and Publications

For Applicant's Information Disclosure Statement

(Use Several Sheets if Necessary)

ATTORNEY DOCKET NO: 6006-107

APPLICANT: C. Boyle et al.

FILING DATE: September 26, 2003

SERIAL NO: 10/672,695

GROUP: 3731

U.S. PATENT DOCUMENTS

Examiner's	Ref.	Document				
Initials	Desig.	Number	Date	Name	Class S	ubclass
	AA5	5,683,453	11/4/97	Palmaz	623/1	623/12
	AB5	5,656,036	8/12/97	Palmaz	623/12	606/195
	AC5	5,938,697	8/17/99	Killion, et al.	623/1	623/12
	AD5	5,938,682	8/17/99	Hojeibane, et al.	606/198	623/1
	AE5	5,913,896	6/22/99	Boyle, et al.	623/1	623/11
	AF5	5,879,370	3/9/99	Fischell, et al.	606/198	623/1
	AG5	5,868,782	2/9/99	Frantzen	606/198	606/1
	AH5	5,843,117	12/1/98	Alt, et al.	606/194	623/1
	AI5	5,855,600	1/5/99	Alt	623/1	623/12
	AJ5	5,824,045	10/20/98	Alt	623/1	606/191
	AK5	6,007,573	12/28/1999	Wallace et al.	623/001	

FOREIGN PATENT DOCUMENTS

Ref.	Document	Document					
Desig.	Number	Date	Country	Class Subclass	Yes No		
AL5	0 442 303	8/21/91	EPO	C23C 16/26			
AM5	10072319	10/5/99	Japan	B01D 59/34			
AN5	51055724	5/17/76	Japan	A61C-013/00			
AO5	01/56502	8/9/01	WIPO	A61F 2/06			
AP5	99/62432	12/9/99	WIPO	A61F 2/06			

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AR5 "Benefits From Diamond-Like Coated Stainless Steel Stents", http://www.phytis.com/stents0.htm, pp. 1-2

AS5 "Adhesion of Bovine Serum Albumin on Coated DLC (Diamond-Like) and Uncoated (SiO₂ / TiO₂) Sensor Chips", http://www.phytis.com/stent4.htm, pp. 1-2

AT5 "Flow Cytometric Investigation", http://www.phytis.com/stent6.htm, pp. 1-3

EXAMINER

DATE CONSIDERED

List of Patents and Publications For Applicant's Information

Disclosure Statement

(Use Several Sheets if Necessary)

ATTORNEY DOCKET NO: 6006-107

APPLICANT: C. Boyle et al.

FILING DATE: September 26, 2003

SERIAL NO: 10/672,695

GROUP: 3731

U.S. PATENT DOCUMENTS

Examiner's	Ref.	Document			
Initials	Desig.	Number	Date	Name	Class Subclass
	AA6	4,780,807	7/14/98	Saunders	219/121 29/557
	AB6	5,607,445	3/4/97	Summers	606/198 623/1
	AC6	5,776,161	7/7/98	Globerman	606/194 606/192
	AD6	5,593,442	1/14/97	Klein	623/12 623/1
	AE6	5,569,295	10/29/96	Lam	606/198 606/195
	AF6	5,514,154	5/7/96	Lau, et al.	606/195 606/194
	AG6	5,895,406	4/20/99	Gray, et al.	606/198 623/1
	AH6	5,876,432	3/2/99	Lau, et al.	623/1 623/12
	AI6	6,015,429	1/18/00	Lau, et al.	623/1 623/12
	AJ6	5,919,225	7/6/99	Lau, et al.	623/1 623/12
	AK6	6,066,167	5/23/00	Lau, et al.	623/1

FOREIGN PATENT DOCUMENTS

Ref.	Document					
 Desig.	Number	Date	Country	Class Subclass	Yes No	
 AL6	00/55181	9/21/00	WIPO	C07K 1/00	-	
AM6	01/91918	12/6/01	WIPO	B05C 5/02		
AN6	2110606	5/10/98	Russian	C23C 14/34		
AO6	2 777 771	10/29/99	France	A61F 2/06		
AP6	199 37 638	5/17/01	Germany	A61F 2/04		

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AR6 "Pre-clinical and Clinical Evaluation", http://www.phytis.com/stent2.htm, pp. 1B2

AS6 "The New Phytis Stent", http://www.phytis.com/stent1.htm, pp. 1-2

AT6 "Invulnerability and Resistance of DLC-Coating", http://www.phytis.com/stent3.htm, pp. 1-3

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

IDS 6006-107 - 8 -

List of Patents and Publications For Applicant's Information

Disclosure Statement

(Use Several Sheets if Necessary)

ATTORNEY DOCKET NO: 6006-107

APPLICANT: C. Boyle et al.

FILING DATE: September 26, 2003

SERIAL NO: 10/672,695

GROUP: 3731

U.S. PATENT DOCUMENTS

Examiner's	Ref.	Document			
Initials	Desig.	Number	Date	Name	Class Subclass
•	AA7	6,066,168	5/23/00	Lau, et al.	623/1 623/1.15
	AB7	6,056,776	5/2/00	Lau, et al.	623/1 623/12
	AC7	5,603,721	2/18/97	Lau, et al.	606/195 606/194
	AD7	6,059,808	5/9/00	Boussignac	606/191 606/194
	AE7	6,033,433	3/7/00	Ehr, et al.	623/1 623/12
	AF7	6,027,526	2/22/00	Limon, et al.	623/1 623/12
	AG7	6,022,370	2/8/00	Tower	606/194 606/195
	AH7	6,458,152	10/01/2002	Khosravi et al.	623/001.13
	AI7	6,066,169	5/23/00	McGuiness	623/1.16
	AJ7	5,277,933	1/11/94	Claar, et al.	427/248 427/249
	AK7	5,855,955	1/5/99	Claar, et al.	427/248.1 427/249

FOREIGN PATENT DOCUMENTS

 Ref.	Document				Trans.
Desig.	Number	Date	Country	Class Subclass	Yes No
 AL7	01/35865	5/25/01	WIPO	A61F 2/06	
AM7					
AN7					
AO7					
AP7					

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AR7 "Material In Use and Its Biocompatibility", http://www.phytis.com/stent5.htm, pp. 1-2

AS7 "Expertise Concerning the Implementation of the PHYTIS DIAMOND AS STENT Performed at the Institute for Experimental Medicine (IEM)", http://www.phytis.com/stent9.htm, pp. 1

AT7 "PHYTIS L.D.A. Home Page information", http://www.phytis.com/content/htm, pp. 1-15

EXAMINER

DATE CONSIDERED

List of Patents and Publications For Applicant's Information

Disclosure Statement

(Use Several Sheets if Necessary)

ATTORNEY DOCKET NO: 6006-107

APPLICANT: C. Boyle et al.

FILING DATE: September 26, 2003

SERIAL NO: 10/672,695

GROUP: 3731

U.S. PATENT DOCUMENTS

Examiner's	Ref.	Document				
Initials	Desig.	Number	Date	Name	Class S	ubclass
	AA8	5,945,153	8/31/99	Dearnaley	427/2.12	427/527
	AB8	5,925,063	7/20/99	Khosravi	606/200	606/213
	AC8	5,061,914	10/29/91	Busch, et al.	337/140	60/527
	AD8	6,096,175	8/1/00	Roth	204/192	204/192.14
	AE8	5,907,893	6/1/99	Zadno-Azizi	29/6.1	29/412
	AF8	6,019,784	2/1/00	Hines	623/1	600/36
	AG8	5,545,210	8/13/98	Hess, et al.	623/1	623/11
	AH8	5,628,788	5/13/97	Pinchuk	623/1	623/12
	AI8	5,788,558	8/4/98	Klein	451/136	451/113
	AJ8	5,370,684	12/6/94	Vallana, et al.	623/1	623/11
	AK8	5,049,251	9/17/91	Inone	204/192	204/298

FOREIGN PATENT DOCUMENTS

Ref.	Document			Trans.		
Desig.	Number	Date	Country	Class	Subclass	Yes No
AL8						
AM8						
AN8						
AO8						
AP8	•					

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AR8 "Risk Analysis of Stents With a Diamond-Like Coated Surface For Use in Prosthetic Implants", http://www.phytis.com/risk.htm, pp. 1-6

AS8 "Directions for Use, DIAMOND AS® Stent", http://www.phytis.com/direcuse.htm, pp. 1-8

AT8 "Stents: Literature", http://www.phytis.com/liter.htm, pp. 1-8

EXAMINER DATE CONSIDERED

List of Patents and Publications

For Applicant's Information Disclosure Statement

(Use Several Sheets if Necessary)

ATTORNEY DOCKET NO: 6006-107

APPLICANT: C. Boyle et al.

FILING DATE: September 26, 2003

SERIAL NO: 10/672,695

GROUP: 3731

U.S. PATENT DOCUMENTS

Examiner's	Ref.	Document					
Initials	Desig.	Number	Date	Name	Class St	ubclass	
	AA9	5,133,845	7/28/92	Vallana, et al.	204/192	204/192.11	
	AB9	5,421,955	6/6/95	Lau, et al.	216/48	156/244	
	AC9	5,540,820	7/30/96	Terakado, et al.	204/192.3	204/192.15	
	AD9	5,685,961	11/11/97	Pourrezaei, et al.	204/192	204/192.14	
	AE9	5,843,289	12/1/98	Lee, et al.	204/192	204/192.32	
	AF9	5,855,802	1/5/99	Acciai, et al.	216/8	216/56	
	AG9	5,951,881	9/14/99	Rogers, et al.	216/41	216/8	
	AH9	5,649,977	7/22/97	Campbell	623/001		
	AI9	5,728,150	3/17/98	McDonald et al.	623/001		
	AJ9	5,733,303	3/31/98	Israel et al.	606/198		
	AK9	6,013,855	1/22/00	McPherson et al.	623/11		

FOREIGN PATENT DOCUMENTS

Ref.	Document	· ··-			···	Trans.
Desig.	Number	Date	Country	Class	Subclass	Yes No
AL9						
AM9						
AN9						
AO9						
AP9						

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AR9 "The Effects of Ion Irradiation on NiTi Shape Memory Alloy Thin Films" by F. Goldberg and E. Knystautas, <u>Proceedings of the Second International Conference on Shape Memory and Superelastic Technologies Asilomar Conference Center, Pacific Grove, California, USA, pp. 177-182 (1997)</u>

AS9 "Constitutive Parts of a Shape Memory Alloy Titanium Nickel Thin Film Catheter" by L. Buchaillot, et al., <u>Proceedings of the Second International Conference on Shape Memory and Superelastic Technologies Asilomar Conference Center, Pacific Grove, California, USA, pp. 183-188 (1997)</u>

AT9 "The Effect of HCD Technological Factors on the NiTi SMA Film Thickness" by Q. Pingshan, et al., <u>Proceedings of the Second International Conference on Shape Memory and Superelastic Technologies Asilomar Conference Center, Pacific Grove, California, USA</u>, pp. 173-176 (1997)

EXAMINER DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

IDS 6006-107 - 11 -

List of Patents and Publications

For Applicant's Information Disclosure Statement

(Use Several Sheets if Necessary)

ATTORNEY DOCKET NO: 6006-107

APPLICANT: C. Boyle et al.

FILING DATE: September 26, 2003

SERIAL NO: 10/672,695

GROUP: 3731

U.S. PATENT DOCUMENTS

Examiner's	Ref.	Document			
Initials	Desig.	Number	Date	Name	Class Subclass
	AA10	5,843,120	12/1/98	Israel et al.	606/198
	AB10	6,013,054	01/11/00	Jiun Yan	604/096
	AC10	6,042,605	03/28/00	Martin et al.	623/001
	AD10	6,103,320	08/15/00	Matsumoto et al.	427/535
	AE10	6,113,750	09/5/00	Shinmura et al.	204/192.15
	AF10	6,120,536	09/19/00	Ding et al.	623/011.43
	AH10	6,120,847	09/19/00	Yang et al.	427/335
	AI10	6,124,523	09/26/00	Banas et al.	623/011
	AJ10	6,126,793	10/3/00	Sugiyama et al.	204/192.23
	AK10	2001/0039449	11/8/01	Johnson et al.	•

FOREIGN PATENT DOCUMENTS

Ref.	Document				Trans.	
Desig.	Number	Date	Country	Class	Subclass	Yes No
AL10	<u></u>					
AM10						
AN10						
AO10						
AP10						

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AR10 "Microstructure of Ti-Rich TiNi Thin Films" by A. Ishida, et al., <u>Proceedings of the Second International Conference on Shape Memory and Superelastic Technologies Asilomar Conference Center, Pacific Grove, California, USA, pp. 161-166 (1997)</u>

AS10 "Thin Film Shape Memory Alloy Microactuators" by TiNi Alloy Company (online)

AT10 "Progress in Thin Film Shape Memory Microactuators" by Johnson, et al., www.sma-mems.com/recent.htm (Overview), pp 1-5

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

IDS 6006-107 - 12 -

List of Patents and Publications

For Applicant's Information Disclosure Statement

(Use Several Sheets if Necessary)

ATTORNEY DOCKET NO: 6006-107

APPLICANT: C. Boyle et al.

FILING DATE: September 26, 2003

SERIAL NO: 10/672,695

GROUP: 3731

U.S. PATENT DOCUMENTS

Examiner's	Ref.	Document			
Initials	Desig.	Number	Date	Name	Class Subclass
	AA11	6,136,258	10/24/00	Wang et al.	264/514
	AB11	6,190,404	2/20/01	Palmaz et al.	623/001.15
	AC11	6,202,304	3/20/01	Shatz	029/896.6
	AD11	6,207,536	3/27/01	Matsumoto et al.	438/478
	AE11	2001/0000188	4/5/01	Lenker et al.	
	AF11	6,245,104	6/12/01	Alt	623/001.46
	AG11	6,264,687	7/24/01	Tomonto	623/001.16
	AH11	6,274,014	8/14/01	Matsumoto et al.	204/298.11
	AI11	6,280,467	8/28/01	Leonhardt	623/001.16
	AJ11	2001/0019847	9/6/01	Ori et al.	
	AK11	6,287,277	9/11/01	Yan	604/096.01

FOREIGN PATENT DOCUMENTS

	Ref.	Document				Trans.	
	Desig.	Number	Date	Country	Class	Subclass	Yes No
	AL11						
	AM11						
	AN11						
•	AO11						
	AP11						

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AR11 "A Concise History of Vacuum Coating Technology, Part 2: 1940 to 1975" by D. Mattox, www.svc.org/Historyof Vac2.html, pp 1-15

AS11 "Model Surfaces for Studying and Controlling the Adhesion of Cells" by M. Mrksich, AVS 47th International Symposium, Invited Paper No. BI+EL-TuA1 (October 3, 2000)

AT11 "Cell Response to Chemically and Topographically Modified Surfaces" by D.S. Sutherland, et al., AVS 47th International Symposium, Paper No. BI+EL-TuA3 (October 3, 2000)

EXAMINER

DATE CONSIDERED

List of Patents and Publications

For Applicant's Information

Disclosure Statement (Use Several Sheets if Necessary)

ATTORNEY DOCKET NO: 6006-107

APPLICANT: C. Boyle et al.

FILING DATE: September 26, 2003

SERIAL NO: 10/672,695

GROUP: 3731

U.S. PATENT DOCUMENTS

Examiner's	Ref.	Document			
Initials	Desig.	Number	Date	Name	Class Subclass
	AA12	6,287,329	9/11/01	Duerig et al.	623/001.11
	AB12	6,287,435	9/11/01	Drewery et al.	204/298.09
	AC12	6,287,628	9/11/01	Hossainy et al.	427/002.3
	AD12	2001/0021870	9/13/01	Edwin et al.	
	AE12	6,290,720	9/18/01	Khosravi et al.	623/001.13
	AF12	6,290,721	9/18/01	Heath	623/001.15
	AG12	6,293,967	9/25/01	Shanley	623/001.15
	AH12	2001/0025131	9/27/01	Edwin et al.	
	AI12	6,299,604	10/9/01	Ragheb et al.	604/265
	AJ12	2001/0032013	10/18/01	Marton	
	AK12	2001/0037144	11/1/01	Kim et al.	

FOREIGN PATENT DOCUMENTS

Ref.	Document				Trans.
Desig.	Number	Date	Country	Class Subclass	Yes No
AL12					
AM12					
AN12					
AO12					
AP12					
	Desig. AL12 AM12 AN12 AO12	Desig. Number AL12 AM12 AN12 AO12	Desig. Number Date AL12 AM12 AN12 AO12	Desig. Number Date Country AL12 AM12 AN12 AO12	Desig. Number Date Country Class Subclass AL12 AM12 AN12 AO12

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AR12 "The Nanomechanical Properties of Thin Films" by J.E. Houston, AVS 47th International Symposium, Paper No. TF-TuA1 (October 3, 2000)

AS12 "Anomalous Plastic and Elastic Behaviors of Sputter-deposited TiNi with 10 or 20 Inserted Thin A1 Layers Evaluated by Nanoindentation" by E. Kusano, et al., AVS 47th International Symposium, Paper No. TF-TuA3 (October 3, 2000)

AT12 "Recent Progress in the Application of Thin Film Shape Memory Alloys" by A.D. Johnson and J.D. Busch, <u>Proceedings of the First International Conference on Shape Memory and Superelastic Technologies Asilomar Conference Center, Pacific Grove, California, USA, pp. 299-310 (1994)</u>

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

IDS 6006-107 - 14 -

List of Patents and Publications

For Applicant's Information

Disclosure Statement

(Use Several Sheets if Necessary)

ATTORNEY DOCKET NO: 6006-107

APPLICANT: C. Boyle et al. FILING DATE: September 26, 2003

SERIAL NO: 10/672,695

GROUP: 3731

U.S. PATENT DOCUMENTS

Examiner's	Ref.	Document		· <u> </u>				
Initials	Desig.	Number	Date	Name	Class	Subclass		
	AA13	6,312,463	11/6/01	Rourke et al.	623/001	1.39		
	AB13	6,315,708	11/13/01	Salmon et al.	600/003			
	AC13	6,315,794	11/13/01	Richter	623/001.34			
	AD13	6,331,191	12/18/01	Chobotov	623/001.44			
	AE13	2002/0013616	1/31/02	Carter et al.				
	AF13	5,455,100	10/3/95	White	428	131		
	AG13	4,657,544	4/14/87	Pinchuk	623	1		
	AH13	4,073,999	2/14/78	Bryan, et al.	428	311		
	AI13	5,207,709	5/4/93	Picha	623	11		
	AJ13	6,240,616	6/5/01	Yan	29	527.2		
	AK13	6,327,772	12/11/01	Zadno-Azizi	29	557		

FOREIGN PATENT DOCUMENTS

			Country			Trans. Yes No
sig.	Number	Date	Country	Class	Subclass	
13						
113						
113						
13						
13						
	.13 413 113 013 013	.13 413 413 013	.13 413 413 013	.13 .113 .113 .013	.13 .113 .113 .013	.13 .113 .113 .013

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AR13 "Thin-film Processing of TiNi Shape Memory Alloy" by J.A. Waker and K.J. Gabriel, <u>Sensors and Actuators</u>, A21-A23, pp. 243-246 (1990)

AS13 "Sputter-deposition of TiNi, TiNiPd and TiPd films displaying the two-way shape-memory effect" by E. Quandt, et al., Sensors and Actuators, A 53, pp. 434-439 (1996)

AT13 "Applications of Shape-Memory Alloy Thin Films" by A.D. Johnson and V.V. Martynov, <u>Proceedings of the Second International Conference on Shape Memory and Superelastic Technologies Asilomar Conference Center, Pacific Grove, California, USA, pp. 1-8 (1997)</u>

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

IDS 6006-107 - 15 -

List of Patents and Publications For Applicant's Information

Disclosure Statement

(Use Several Sheets if Necessary)

ATTORNEY DOCKET NO: 6006-107

APPLICANT: C. Boyle et al.

FILING DATE: September 26, 2003

SERIAL NO: 10/672,695

GROUP: 3731

U.S. PATENT DOCUMENTS

Examiner's	Ref.	Document			- 1 100	
Initials	Desig.	Number	Date	Name	Class	Subclass
	AA14	5,938,697	8/17/99	Killion, et al.	623/1	623/12
	AB14	2001/0011158	8/2/01	Howland	600	585
	AC14	2001/0037146	11/1/01	Lau, et al.	623	1.16
	AD14	2001/0047201	11/29/01	Cox, et al.	623	1.16
	AE14	2001/0047200	11/29/01	White, et al.	623	1.15
	AF14	2001/0021570	9/13/01	Lin, et al.	438	455
	AG14	6,312,456	11/6/01	Krantz, et al.	623	1.13
	AH14	6,016,693	1/25/00	Viani, et al,	73	105
	AI14	6,331,190	12/18/01	Shokoohi, et al.	623	1.22
	AJ14	6,348,066	2/19/02	Pinchuk, et al.	623	1.16
	AK14	6,361,637	3/26/02	Martin, et al.	156	187

FOREIGN PATENT DOCUMENTS

Ref.	Document				Trans.	
Desig.	Number	Date	Country	Class	Subclass	Yes No
AL14						
AM14						
AN14						
AO14						
AP14						

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AR14 "Role of Bio-Physiochemical Parameters in Cell Adhesion and Rolling-Simulation Analysis" by A. Alshorman, T. David and P. Walker, <u>BED</u>, Vol. 50, pp. 209-210 (2001)

AS14 "Thin Film Shape Memory Microvalves with Adjustable Operation Temperature" by M. Kohl, D. Kittman, E. Quandt and B. Winzek, Sensors and Actuators, Vol. 83, pp. 214-219 (2000)

AT14 "A Temperature-Controlling Device for Refrigerators" by M.C. Shin, K.K. Jee and B.C. Ku, <u>Proceedings of the First International Conference of Shape Memory and Superelastic Technologies</u>, pp. 305-310 (1994)

EXAMINER

DATE CONSIDERED

List of Patents and Publications

For Applicant's Information

Disclosure Statement

(Use Several Sheets if Necessary)

ATTORNEY DOCKET NO: 6006-107

APPLICANT: C. Boyle et al.

FILING DATE: September 26, 2003

SERIAL NO: 10/672,695

GROUP: 3731

U.S. PATENT DOCUMENTS

Examiner's	Ref.	Document				
Initials	Desig.	Number	Date	Name	Class	Subclass
	AA15	5,954,724	9/21/99	Davidson	606	76
	AB15	5,932,036	8/3/99	Fukai	148	670
	AC15	5,482,574	1/9/96	Goldstein ·	148	517
	AD15	5,508,116	4/16/96	Barrett	428	567
	AE15	5,578,149	11/26/96	DeScheerder	148	563
	AF15	5,597,378	1/28/97	Jervis	606	78
	AG15	5,597,458	1/18/97	Sanchez, Jr.	204	192.3
	AH15	5,624,508	4/29/97	Flomenblit, et al.	148	510
	AI15	5,635,144	6/3/97	Akluft	422	186.05
	AJ15	6,284,316	9/4/01	Sandhu, et al.	427	255.391
	AK15	6,287,430	9/11/01	Matsumoto, et al.	204	192.26

FOREIGN PATENT DOCUMENTS

Ref.	Document	•					
Desig.	Number	Date	Country	Class	Subclass	Yes No	
 AL15		. ,					
AM15							
AN15							
AO15							
AP15							

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AR15 "The Experimental Use of Steel Mesh Tubes for the Replacement of Arterial Segments" by Larry, Banning G., M.D., et al, <u>Presented at the Third Scientific Meeting of the North American Chapter of the International Society of Angiology, Atlantic City</u>, NJ, pp. 69-75, June 4 1955

AS15 Abstract: "Relative importance of bombardment energy and intensity in ion plating" by K.S. Fancey, C.A. Porter and A. Matthews, <u>Journal of Vacuum Science & Technology A: Vacuum, Surfaces, and Films</u>, March 1995, Vol. 13, Issue s, pp. 428-435

AT15 Abstract: "Oriented nickel-titanium shape memory alloy films prepared by annealing during deposition" by K. Gisser, J. Bussh and A. Johnson and A. Ellis, <u>Applied Physics Letters</u>, October 1992, Vol. 61, Issue 14, pp. 1632-1634

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

IDS 6006-107 - 17 -

List of Patents and Publications

For Applicant's Information Disclosure Statement

(Use Several Sheets if Necessary)

ATTORNEY DOCKET NO: 6006-107

APPLICANT: C. Boyle et al.

FILING DATE: September 26, 2003

SERIAL NO: 10/672,695

GROUP: 3731

U.S. PATENT DOCUMENTS

Examiner's	Ref.	Document				
Initials	Desig.	Number	Date	Name	Class	Subclass
	AA16	4,665,906	5/19/87	Jervis	128	92
	AB16	5,190,546	3/2/93	Jervis	606	78
	AC16	5,358,615	10/25/94	Grant, et al.	204	192.15
	AD16	6,248,401	6/19/01	Chiang, et al.	427	255.7
	AE16	6,253,441	7/3/01	Wheat, et al.	29	527.2
	AF16	2001/0003146	6/7/01	Jalisi, et al.	600	585
	AG16	6,238,491	5/29/01	Davidson, et al.	148	237
	AH16	2001/0055654	12/27/01	Halpern	427	600
	AI16	2001/0055647	12/27/01	Tamura, et al.	427	177
	AJ16	6,306,276	10/23/01	Nobe, et al.	205	238
	AK16	6,306,141	10/23/01	Jervis	606	78

FOREIGN PATENT DOCUMENTS

Ref.	Document		_		Trans. Yes No
 Desig.	Number	Date	Country	Class Subclass	
 AL16		1.			
AM16					
AN16					
AO16					
AP16					

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AR16 Abstract: "Vacuum conditions for sputtering thin film TiNi" by A. Peter Jardine, <u>Journal of Vacuum Science & Technology A: Vacuum, Surfaces, and Films</u>, May 1995, Vol. 13, Issue 3, pp. 1058-1062

AS16 Multicomponent Film Deposition by Target Biasing", IBM Technical Disclosure Bulletin, pp. 1-2 (July 1980)

AT16 "Shape Memory Properties in NiTi Sputter-deposited Film", by J.D. Busch and A.D. Johnson, <u>J Appl. Phys</u>, Vol. 68, No. 12, pp. 6224-6226 (December 15, 1990)

EXAMINER

DATE CONSIDERED

List of Patents and Publications For Applicant's Information

Disclosure Statement

(Use Several Sheets if Necessary)

ATTORNEY DOCKET NO: 6006-107

APPLICANT: C. Boyle et al.

FILING DATE: September 26, 2003

SERIAL NO: 10/672,695

GROUP: 3731

U.S. PATENT DOCUMENTS

Examiner's	Ref.	Document				
Initials	Desig.	Number	Date	Name	Class	Subclass
	AA17	6,299,604	10/9/01	Richter	205	238
	AB17	6,293,966	9/25/01	Frantzen	623	1.15
	AC17	6,231,923	5/15/01	Teverovsky, et al.	427	248.1
	AD17	6,217,952	4/17/01	Sugiyama, et al.	427	577
	AE17	6,203,505	3/20/01	Jalisi, et al.	600	585
	AF17	2001/0000043	3/15/01	Israel, et al.	606	198
	AG17	6,194,088	2/27/01	Yoshida, et al.	428	660
	AH17	6,190,407	2/20/01	Ogle, et al.	623	1.51
	AI17	6,173,672	1/19/01	Shapard, Jr.	118	723
	AJ17	6,156,373	12/5/00	Zhong, et al.	427	2028
	AK17	H1,924	12/5/00	Zabinski, et al.	204	192.16

FOREIGN PATENT DOCUMENTS

Document		<u> </u>		Trans.	
Number	Date	Country	Class	Subclass	Yes No

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AR17 "Endothelial Cell Organization on Micropatterned Protein Surfaces" by R. Daw, et al., AVS 47th International Symposium, Paper No. BI-WeP21 (October 4, 2000)

AS17 "Tissue Formation of Hepatocytes on Micro-Porous Films of Polylactide" by T. Nishikawa, et al., AVS 47th International Symposium, Paper No. BI+EL-TuA10 (October 3, 2000)

AT17 "Sputtering Targets High-Quality Thin Film Materials" by AMETEK Specialty Metal Products online at www.ametek84.com/fd-sputtering.html, pp. 1-3

EXAMINER

DATE CONSIDERED

List of Patents and Publications

For Applicant's Information Disclosure Statement

(Use Several Sheets if Necessary)

ATTORNEY DOCKET NO: 6006-107

APPLICANT: C. Boyle et al.

FILING DATE: September 26, 2003

SERIAL NO: 10/672,695

GROUP: 3731

U.S. PATENT DOCUMENTS

Examiner's	Ref.	Document				
Initials	Desig.	Number	Date	Name	Class	Subclass
	AA18	6,156,052	12/5/00	Richter, et al.	606	191
	AB18	6,149,742	11/21/00	Carpenter, et al.	148	563
	AC18	6,261,320	7/17/01	Tam, et al.	623	1.15
	AD18	6,264,595	7/24/01	Defino, et al.	600	1
	AE18	2001/0009169	7/26/01	Kajiwara, et al.	148	563
	AF18	2001/0009220	7/26/01	Mizuno, et al.	427	569
	AG18	6,267,782	7/31/01	Ogle, et al.	623	1.1
	AH18	6,267,867	7/31/01	Olson	205	640
	AI18	6,258,417	7/10/01	Goswami, et al.	427	452
	AJ18	6,258,182	7/10/01	Schetky, et al.	148	402
	AK18	6,258,121	7/10/01	Yang, et al.	623	1.46

FOREIGN PATENT DOCUMENTS

Ref.	Document	Document					
Desig.	Number	Date	Country	Class	Subclass	Yes No	
 AL18							
AM18							
AN18							
AO18							
AP18							

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AR18 "The influence of ion irradiation during film growth on the chemical stability of film/substrate systems" by W. Ensinger, Surface and Coatings Technology, Vol. 80, pp. 35-48 (1996)

AS18 "The Characteristics of NiTi HCD-Deposited SMA Films" by H. Weixin, et al., <u>Proceedings of the Second International Conference on Shape Memory and Superelastic Technologies Asilomar Conference Center, Pacific Grove, California, USA</u>, pp. 167-172 (1997)

AT18

EXAMINER

DATE CONSIDERED

List of Patents and Publications For Applicant's Information

Disclosure Statement

(Use Several Sheets if Necessary)

ATTORNEY DOCKET NO: 6006-107

APPLICANT: C. Boyle et al.

FILING DATE: September 26, 2003

SERIAL NO: 10/672,695

GROUP: 3731

U.S. PATENT DOCUMENTS

Examiner's	Ref.	Document	**			
Initials	Desig.	Number	Date	Name	Class	Subclass
	AA19	6,264,598	7/24/01	Armini	600	3
	AB19	6,113,705	9/5/00	Ohashi, et al.	118	730
	AC19	6,136,159	10/24/00	Buckfeller, et al.	204	192.13
	AD19	6,126,761	10/3/00	DeHaven, et al.	148	518
	AE19	6,120,536	9/19/00	Ding, et al.	623	1.43
	AF19	6,113,982	9/5/00	Claar, et al.	427	248.1
	AG19	5,843,120	12/1/98	Israel, et al.	606	198
	AH19	5,853,419	12/29/98	Imran	606	191
	AI19	2002/0042649	4/11/02	Schaldach, et al.	623	1.15
	AJ19	6,309,414	10/30/01	Rolando, et al.	623	1.15
	AK19	2001/0165600	11/7/02	Banas, et al.	623	1.11

FOREIGN PATENT DOCUMENTS

Ref.	Document				Trans.	
Desig.	Number	Date	Country	Class	Subclass	Yes No
AL19						
AM19						
AN19						
AO19						
AP19	•					

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AR19

AS19

AT19

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw a line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

IDS 6006-107 - 21 -

List of Patents and Publications

For Applicant's Information Disclosure Statement

(Use Several Sheets if Necessary)

ATTORNEY DOCKET NO: 6006-107

APPLICANT: C. Boyle et al.

FILING DATE: September 26, 2003

SERIAL NO: 10/672,695

GROUP: 3731

U.S. PATENT DOCUMENTS

Examiner's	Ref.	Document			•		
Initials	Desig.	Number	Date	Name	Class	Subclass	
	AA20	6,322,585	11/27/01	Khosravi, et al.	623	1.11	
	AB20	6,334,868	1/1/02	Ham	623	1.13	
	AC20	6,387,122	5/14/02	Cragg	623	1.16	
	AD20	6,383,214	5/7/02	Banas, et al.	623	1.14	
	AE20	6,346,119	2/12/02	Kuwahara, et al.	623	1.13	
	AF20						
	AG20						
	AH20						
	AI20						
	AJ20						
	AK20						
			FOREIGN P.	ATENT DOCUMENTS	,		
	Ref.	Document	***************************************				Trans.
	Desig.	Number	Date	Country	Class	Subclass	Yes No
	AL20						
	AM20						
	AN20						
	AO20						
	AP20						

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

AR20

AS20

AT20

EXAMINER

DATE CONSIDERED